

STATE UNIVERSITY OF NEW YORK
New Paltz, New York.

General Physics 2

Course No. PHY202 (Sec. 1) (3 credits)
Spring 2025

Instructor: Dr. T. Biswas
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Text

General Physics – Electricity, Magnetism and Optics by T. Biswas (download from Brightspace).

Reference

Fundamentals of Physics by D. Halliday, R. Resnick and J. Walker. (any edition)

Course Description

This is the second part of a two semester, calculus based, introductory physics course. The main areas that will be covered are electricity, magnetism and optics. The lectures will introduce the subject matter to the class and will be followed by assignment of homework for each week. Homework is designed to enhance problem solving abilities of students.

Of the scheduled lecture time, approximately one hour (per week) will be set aside for recitation. This hour is meant for the discussion of homework problems. Students are expected to have attempted to solve all homework problems for the week before the recitation hour. Some of the assigned problems are meant to challenge the limits of student abilities and it is expected that students will need help from the instructor to solve these problems. Homework problems and their solutions are available at the instructor's website (www.engr.newpaltz.edu/~biswast. Look for "Course Materials" in menu.).

Grading Policy

Two lecture exams during the semester and the final lecture exam will be considered in computing the final grade. The following weights will be assigned for the determination of the final course grade.

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|---------------------|-----|
| First lecture exam | 30% |
| Second lecture exam | 30% |
| Final lecture exam | 40% |

To be excused from an exam, the student must produce satisfactory written proof (e.g. doctor's note) of inability to turn up. In case of a legitimate exemption for any exam (other than the final), the student will be required to take an alternate exam. In case of such exemption from the final exam, the student will receive an incomplete grade which must be completed (by taking the final exam) before the scheduled deadline next semester.

Chapters Covered

- Chapter 1 – The Electric Force.
- Chapter 2 – The Electric Field.
- Chapter 3 – Electric Flux and Gauss' Law.
- Chapter 4 – Electric Potential.
- Chapter 5 – Electric Current.
- Chapter 6 – DC Circuits.
- Chapter 7 – Capacitors.
- Chapter 8 – The Magnetic Force.
- Chapter 9 – The Magnetic Field.
- Chapter 10 – Electromagnetic Induction.
- Chapter 11 – AC Circuits.
- Chapter 12 – Maxwell's Equations and Light.
- Chapter 13 – Geometrical Optics.
- Chapter 14 – Optical Instruments.

Schedule

| Week of | Lecture |
|----------------|-----------------------------|
| 1/20 | Chap. 1, 2 |
| 1/27 | (Chap. 1 probs.) Chap. 2 |
| 2/3 | (Chap. 2 probs.) Chap. 3 |
| 2/10 | (Chap. 3 probs.) Chap. 4 |
| 2/17 | (Chap. 4 probs.) Chap. 5, 6 |

First exam on 2/24/25 (Monday) (Chaps. 1-4)

| | |
|------|---------------------------------|
| 2/24 | Chap. 6, 7 (and exam) |
| 3/3 | (Chap. 5 & 6 probs.) Chap. 7, 8 |
| 3/10 | (Chap. 7 probs.) Chap. 8, 9 |
| 3/17 | ———— Spring Break ———— |
| 3/24 | (Chap. 8 probs.) Chap. 9, 10 |
| 3/31 | (Chap. 9 probs.) Chap. 10 |

Second exam on 4/7/2025 (Monday) (Chaps. 5-9)

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|------|-------------------------------------|
| 4/7 | Chap. 11 (and exam) |
| 4/14 | (Chap. 10 & 11 probs.) Chap. 12, 13 |
| 4/21 | (Chap. 11 & 12 probs.) Chap. 13 |
| 4/28 | (Chap. 13 probs.) Chap. 14 |
| 5/5 | (Chap. 14 probs.) |

Final exam on 5/12/25 (Monday) (12:30-2:30 pm) (Comprehensive)

Administrative Addenda

Student Learning Outcomes

To acquire basic skills in handling the phenomena of electricity, magnetism and optics.

Campus-Wide Policies

<https://www.newpaltz.edu/acadaff/academic-policies-including-academic-integrity/>

Deadlines

<http://www.newpaltz.edu/events/academic.php>